

CLAIMS

1. Magnetic transducer for measuring the flow of a fluid, the transducer having electrodes and an alternating magnetic field, wherein an electrode has lower noise energy at frequencies below 5Hz than an electrode comprising carbon or corrosion-resistant metal alloy.
2. Magnetic transducer for measuring the flow of a fluid, the transducer having electrodes and an alternating magnetic field, wherein an electrode has a noise characteristic at magnetic field frequencies around 1 Hz that is lower than that of an electrode comprising carbon or corrosion-resistant metal alloy.
3. Magnetic transducer according to claim 1 or claim 2, wherein the electrode is configured such that a galvanic current flows across its interface with the fluid.
4. Magnetic transducer according to claim 3, wherein the electrode is configured such that the galvanic current is carried by ions.
5. Magnetic transducer according to claim 4, wherein the electrode comprises a metal and an ionic compound of that metal interposed between the metal and the fluid, thereby to assist the charge exchange.
6. Magnetic transducer according to claim 5, wherein the ionic compound is sparingly soluble in said fluid the flow of which is to be measured.
7. Magnetic transducer according to claim 5 or 6, wherein the metal is silver.
8. Magnetic transducer according to claim 7, wherein the

ionic compound is a silver halide salt.

9. Magnetic transducer according to claim 8, wherein said silver halide salts are silver chloride or silver fluoride.

5 10. Magnetic transducer according to any one of claims 5 to 9, wherein the electrode comprises an electrochemically deposited layer of metal salt.

11. Magnetic transducer according to any one of claims 5 to 9, wherein the electrode comprises a sintered layer of 10 metal salt.

12. Magnetic transducer according to claims 10 or 11, wherein the thickness of the layer of metal salt is such that the impedance of the electrode is at a minimum.

13. Magnetic transducer according to any preceding claim, 15 wherein the surface of the electrode is roughened so as to increase its active area.

14. Magnetic transducer according to claim 13, wherein the layer of metal salt is partially reduced.

15. Magnetic transducer according to any preceding claim, 20 wherein a pair of electrodes of the magnetic transducer are balanced so as to minimise the offset potential between the two.

16. Magnetic transducer according to any preceding claim and comprising means for generating the alternating 25 magnetic field, said means exhibiting magnetic remanence.

17. Flow meter incorporating a magnetic transducer according to any preceding claim.

18. Flow meter according to claim 17, wherein the meter

is battery-powered.